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Multiple Use Highlights

In The

Pacific Northwest Region

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U. S. Department of Agriculture
✓ Forest Service

REGIONAL OFFICE DIVISIONS AND FORESTS
R-6

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Deschutes	Ashley A. Poust	Bend, Oregon
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Gifford Pinchot	C. Glen Jorgensen	Vanvouver, Washington
Malheur	J. Malcolm Loring	John Day, Oregon
Mt. Baker	Harold C. Chriswell	Bellingham, Washington
Mt. Hood	Paul E. Neff	Portland, Oregon
Ochoco	Cleon L. Clark	Prineville, Oregon
Okanogan	Walfred J. Moisie	Okanogan, Washington
Olympic	Lloyd G. Gillmor	Olympia, Washington
Rogue River	Carroll E. Brown	Medford, Oregon
Siskiyou	H. C. Obye	Grants Pass, Oregon
Siuslaw	Rex W. Wakefield	Corvallis, Oregon
Snoqualmie	Laurence O. Barrett	Seattle, Washington
Umatilla	Charles M. Rector	Pendleton, Oregon
Umpqua	Vondis E. Miller	Roseburg, Oregon
Wallowa-Whitman	John B. Smith	Baker, Oregon
Wenatchee	John K. Blair	Wenatchee, Washington
Willamette	David R. Gibney	Eugene, Oregon

COVER: Broken Top and Bachelor Butte from Big Lava Lake.

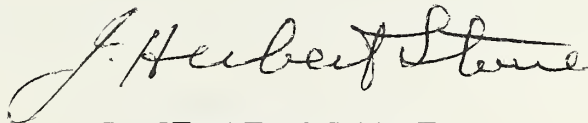
1959
*Multiple Use Highlights
Pacific Northwest Region*

The work of the Forest Service in the Pacific Northwest Region is far reaching. It extends to 23 million acres on 19 national forests in Oregon and Washington, and covers all of the multiple resources of these public properties.

In a statement of this kind it would be impossible to cover in great detail all of this work, but rather we have attempted here in the form of "Multiple Use Highlights for 1959" to highlight the plans and programs of the Forest Service in Region 6. We have recorded some of our accomplishments for 1959 and have dealt very briefly with plans for 1960.

Future plans and programs for the Region will be geared to the "Program for the National Forests" which was presented to Congress by Secretary of Agriculture Benson this past year. The program has been referred to as "Operation Multiple Use", and includes both long-term and short-term objectives. It will be the guidepost to work planning and multiple use management of our forest resources in the years ahead.

Any comments you may wish to make on this summary or our work will be welcome.

A handwritten signature in cursive script, reading "J. Herbert Stone". The signature is fluid and elegant, with the first letters of each word being capitalized and prominent.

J. HERBERT STONE
Regional Forester



Recreation in the national forests takes many forms

Recreation & Lands

PLANS AND PROGRAMS

Probably the outstanding highlight of 1959 in the field of recreation was the National Forest Recreation Survey. The inventory phase of this work is 85% complete. The field work will be completed by September 15, 1960, for the entire region.

This survey includes a physical inventory of potential recreation lands and an estimate of future needs projected to the years 1976 and 2000. It will provide the ground work for future recreation developments in the region. This information will also be made available to the Outdoor Recreation Resources Review Commission, appointed by the President, for use in a correlated plan on a nationwide basis.

"Operation Outdoors" is moving ahead steadily but at a slower pace than the recreational demand. Progress was retarded in 1959 because of the higher priority of the National Forest Recreation Survey job. Recreation site planning has continued without interruption and we now have completed plans a full year and a half ahead of construction.

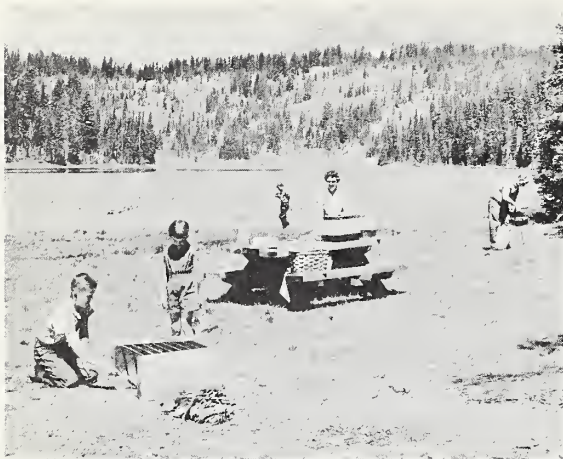
A study of the 801,000-acre North Cascade Primitive Area will be made in 1960, with the objective of reclassifying it as a Wilderness Area under Regulation U-1. Boundaries will be redetermined following the guidance of multiple use management analyses and plans now being prepared by the Mt. Baker and Okanogan forests.

A systematic land corner search and evaluation to legally define land ownership boundaries is under way as the first stage of a comprehensive program of boundary establishment and marking throughout the national forests. Personnel are being trained and field work is in progress.

PROGRESS

Recreation

The over-all recreation use did not climb as rapidly as in the previous year. The 1959 visits to the national forests of Region Six totaled nearly 8,260,000. This was a 6% increase over 1958.



New tables and grills are among the items provided under "Operation Outdoors"

Winter Recreation

The public acceptance of the new Bachelor Butte winter sports area exceeded all expectations. Because of late snows on the west side slopes, Bachelor Butte was one of the few areas providing good early skiing conditions. An unfortunate fire at White Pass on November 17 destroyed the ski lodge and lower terminal of number 1 chair lift. Aggressive action on the part of the White Pass Company resulted in the construction of a new lodge and facilities which are now available to the skiing public.

Land Uses

The region's proposal to establish a 422,925-acre Glacier Peak Wilderness Area on the Mt. Baker and Wenatchee forests was publicly announced on February 16, 1959. Public hearings were held in Bellingham and Wenatchee on October 13 and 16. Final decision on the establishment of this area rests with the Secretary of Agriculture.

Minerals Management

Mining is recognized as one of the multiple uses of wild land which must be harmonized with other uses under a multiple use plan.

The determination of surface rights under Public Law 167 is progressing in an orderly manner. Since the law was passed in 1955, about 5,200,000 acres have been examined and advertised. To date, verified statements have been filed on 2,417 claims, of which over 900 have been examined by Forest Service mining engineers. During the year, three hearings were held under this law. Final decision is pending in all three cases.

This year, 55 claims were examined in connection with patent applications. Four hearings were held, which resulted in the rejection of one application. Final decision is pending on the other three. Another mining engineer has been added to the staff so that the examination of claims can be kept more nearly up to date. Patent applications will continue to be handled currently as they are received.

Summer Recreation

It has been our objective under "Operation Outdoors" to provide 100% policing and maintenance in all camp and picnic areas. This was virtually attained in 1959. In addition, 1,071 family camp sites were rehabilitated, and 510 new units were constructed in 39 areas. This will help to accommodate the increasing number of visitors.



The national forests provide recreation all year long.

PROBLEMS

In the next few years decision must be made on the location and extent of areas to be dedicated to wilderness recreation. Wilderness dedication is compatible with the concept of multiple use management. Also, wilderness is but one form of recreation use on the national forests. The balance between uses must be determined equitably.

Mounting public land values and increasing need for public access to national forest lands point out the need for accurate location and monumentation of boundaries between national forests and lands in private or other public ownerships. Accurately located property lines are basic to good national forest resource management.

Status records that portray more clearly the condition of the title of national forest lands are still badly needed.

Watershed Management

PLANS AND PROGRAMS

Watershed management has the dual objectives of protection and rehabilitation. We must keep the soil mantle in place and make mountain water available in the manner best suited to serve public requirements. Protection is largely a matter of application of certain standards and precautions in carrying out forest activities. Rehabilitation requires specific work of its own.

Sand dune restoration work and soil and water conservation projects will continue at about the same level as this past year.

In small watersheds, we expect to complete work plans for the Pine Valley project (Wallowa-Whitman), the Skokomish River project (Olympic), and for the Naneum-Wilson Creeks project (Wenatchee) this coming year. Two or three new watershed project applications are in prospect.

The water resource inventory will get into high gear, and we expect to complete collection of data for the Deschutes and upper Willamette basins in 1960.

Work on the various Columbia Basin Inter-Agency Committee studies will continue. In 1960 the Department of Agriculture will take over committee chairmanship, and the Forest Service will furnish the executive secretary.

The soil survey on the South Umpqua Ranger District will be completed in 1960, and it is tentatively planned work will begin on the Bull Run drainage (Mt. Hood) which includes the Portland municipal water supply watershed.

PROGRESS

The soil survey programs currently under way will provide basic information for multiple use management. There is a pilot soil survey under way on the Umpqua National Forest. The soil-vegetation survey in the Alsea River Basin is a cooperative effort with the Oregon State Agriculture Experiment Station and other Government agencies and private land owners. Soil mapping for the Quilcene Ranger District and a soil association type survey for the Shelton and Hoodport Districts of the Olympic were completed in 1959.

Efforts to improve national forest management wherever it affects water quality, use, and distribution are continuing. A general watershed management and two forest soils training schools were held for selected personnel.

A sizeable program of sand dune stabilization has been continued in 1959 on the Oregon coast. A total of 800 acres have now been planted to afford protection to stream channels, highways, campgrounds and related land values.

In addition, contour trenching and grass seeding to stop erosion and slow down run-off was done on the Rogue River, Umatilla, Wallowa-Whitman, and Wenatchee forests.

Emergency watershed protection work was speedily done on the Ashland City watershed following a forest fire in August. The region received about \$10,000 of emergency funds for contour furrowing, seeding a quick cover crop, and channel cleanup in the burned areas to reduce the hazard of flood and sediment damage to the city. This is the first project on which we have been able to justify use of emergency flood prevention funds in this region.

Multiple use plans for the 113 ranger districts are being completed according to schedule, and should be done by December 1960. Plans finished so far are proving a decided help to management.

An inventory of Bureau of Reclamation projects covering 142 units (parts of 130 projects) was completed in 1959. About 90 units will affect the national forests of Region 6.

Hydroelectric projects under license or permit from the Federal Power Commission were also inventoried, updating the 1955 summary. Five new project applications were studied and reported to the Commission.



A regular supply of pure clean water from the national forests means the difference between the productive fields and orchards shown on the left and the semi-arid country on the right.



The first stage in sand dune control is to plant European Beachgrass (*Ammophila arenaria*) culms to a depth of 12 inches, spaced 18 inches apart.

PROBLEMS

Good watershed management is a continuing job requiring close attention to every activity on the land. Focus must be kept on this fact. More basic data is needed to inform management so that it can keep up with every increasing use of the national forests. The prime need is for more rapid extension of the forest soil surveys. With increasing use, the need is also compelling for immediate rehabilitation and putting into production lands now in degraded unproductive condition.

Range & Wildlife Management

PLANS AND PROGRAMS

Our current program emphasizes the following items:

1. Recruiting and training foresters with range and/or wildlife education and experience.
2. Range analyses and management planning of both domestic and big game ranges as a basis for better use of the range, and coordination with other resource activities.
3. Expanded range improvement and revegetation program to rejuvenate the forage resources and bring about better management and protection of both domestic and big game ranges.
4. Improvement of upland game bird habitat and of certain fishing waters in cooperation with the responsible State fish and game agencies.

5. Evaluation of game damage to tree plantations and efforts to keep damage within tolerable limits.

The benefits obtained from improved forage conditions are manifold. In addition to increasing the quality and quantity of forage available to livestock and big game, a good vegetative cover holds soil in place, helps maintain soil fertility, reduces surface evaporation, minimizes overland flow of water, and allows for more rapid percolation of water.

PROGRESS

Range Management

Livestock forage production was normal in the high country and a little below normal on lower ranges on most national forests during 1959. Actual numbers of livestock grazed on national forest lands in the Pacific Northwest Region were:

	<u>1959</u>	<u>1958</u>	<u>1957</u>
Cattle & Horses	90,496	87,395	86,898
Sheep	135,899	139,055	145,593

The trend of increase in cattle numbers and decrease in sheep numbers in the past few years is apparent.

RANGE IMPROVEMENT THROUGH LIVESTOCK MANAGEMENT



1939

Severely overgrazed meadow on cattle range. Vegetation is mostly weeds. Remnants of grass are in weakened condition. Soil is exposed with 6-foot erosion gully showing. Heavy infestation of rodents. Producing very little forage.



1956

Considerable increase in grass cover. Good litter on ground with little bare soil exposed. Gully is healing over. Rodent activity slight. Producing abundant forage for livestock and game.

This remarkable change has been brought about by manipulation of livestock numbers and season of use. A rotation deferred system of grazing has been used on this cattle allotment since 1939.

Average livestock selling prices were higher in 1958 and grazing fees rose accordingly in 1959. Grazing receipts for 1959 were \$273,675 compared with \$229,075 for 1958.

Wildlife Management

Cooperative agreements with Oregon State Game Commission have been negotiated for the construction of three fishing lakes in 1960, one each on Umatilla, Fremont and Mt. Hood forests.

Two major game range seeding jobs were completed in 1959. One hundred acres were seeded to grass on the Diamond Peak elk range of the Umatilla forest in cooperation with Washington State Game Department. In Oregon 200 acres of the better sites on the large Aspen Flats fire of the Deschutes forest were drilled to bitterbrush and ponderosa pine seed to replace the browse and tree cover destroyed in the fire. Oregon State Game Commission cooperated in the project.

On the Land Use project at Madras, a cooperative upland bird habitat improvement project is under way. Similar improvements were installed on the Fort Rock District of the Deschutes forest.

Three special range and wildlife training sessions were conducted for forest officers in the region in 1959. Game range analysis, opportunities for improving fish and game habitat, and recognition of excessive game damage to tree regeneration were subjects given special emphasis.

Range Analysis

The range analysis program continued at the same level as the previous year. Twelve technicians worked part-time on 14 forests.

As the field analysis is completed and the data compiled, comprehensive management plans are developed in cooperation with the permittees. The permittees then put the plans into action. Plans are revised annually or as needed to keep them up to date and useful.

MULTIPLE USE IN ACTION

The production of timber and game food is the highest use of this area. After a wildfire in August, parts of the burn were seeded to ponderosa pine and bitterbrush. A range-land drill was adapted to seed the pine and bitterbrush in alternate rows.



Revegetation

Treatment of Depleted Ranges to Date and Job Ahead

	1959	Completed to Date	To Complete
Range seeding	8,770 acres	54,000 acres	193,000 acres
Competition removal (Sagebrush spray, etc.)	5,139 "	13,000 "	118,000 "
Water spreading	81 "	1,200 "	10,000 "

Our present rate of progress in range revegetation is treating about 15,000 acres per year. At this rate it will take twenty to twenty-five years to complete the planned program.



Cattle grazing on improved national forest range.
Note drill rows.

Range Improvements

The structural developments necessary to protect or improve national forest ranges are classed as range improvements. Appropriated funds for this activity were approximately the same as the preceding year. These funds plus additional funds contributed by permittees amounted to a construction program of about \$161,100. The permittees' contribution amounted to 47% or \$75,200. Existing structures were maintained at an approximate cost of \$123,720 of which the permittees contributed 67%, or \$83,250 in cash, labor and/or materials.

PROBLEMS

Our greatest needs are up-to-date management plans which form the basis for the best cooperative action by forest officers and permittees. These plans can be developed only where comprehensive livestock and big game range analyses have been completed.

Seeding subalpine grasslands remains a serious problem. Research has not yet fully determined proper species, time, and methods of seeding for these higher elevation areas.

The sagebrush spraying program presents a special problem where desirable browse plants such as bitterbrush and mountain mahogany are intermingled with sagebrush. Research is now being carried on to determine the effects of spray on these browse plants and on wildlife.

In some areas there has been excessive game damage to tree regeneration, primarily west of the Cascades. Adequate harvest of big game appears to be the logical solution to this problem, although various studies are under way to find other means of temporary relief.

Fire Control

PLANS AND PROGRAMS

The fire replanning project, launched for each district and forest in the region during the past summer, is continuing this winter. It should be completed in preliminary form by late spring; after that, there will be field checking, and approval of individual plans. The results should be uniform fire planning, servicewide, that will utilize latest fire protection practices and give consideration to resource values.

PROGRESS

Weatherwise, the 1959 season was one of the most severe on record in many parts of the region. Southern, central, and eastern Oregon were the areas hardest hit. Northwest Washington, in contrast to 1958, had a near-normal season.

In spite of the severe burning conditions, resource losses were held fairly low. The largest fire was at Aspen Flat on the Deschutes forest which burned more area (19,300 acres) than all other 924 fires combined. This fire was started by lightning during some of the most critical burning conditions.

Lightning caused several other large fires, including the 1,000 acre Little Honey Fire on the Fremont forest, but in general the lightning storm frequency was low. The total fires set by this cause is the lowest since 1933. Conditions were such that the fires which were set burned with explosive speed. The number of man-caused fires was up, due mainly to extreme burning conditions in areas of heavy use.

Following are some fire statistics for 1959, compared with other recent years:

<u>No. of Fires</u>	<u>1959</u>	<u>1958</u>	<u>5-year average</u>
Lightning	346	1,421	871
Man-caused	579	532	414
Total	925	1,953	1,285
Acres Burned	24,758	17,686	7,647



Experiments are under way for methods of dissipating electrical storms before they reach the fire-causing stage.



Aerial tanker dropping borate "slurry" on fire while it is still small.

Aerial Program

Aerial facilities were expanded by the establishment of new air tanker bases at Redmond, Lakeview, Eugene, and Troutdale, Oregon. These were in addition to those at La Grande, Medford, and John Day, Oregon, and at Wenatchee, Washington. A smokejumper satellite base was set up at Redmond similar to the one at La Grande. These supplemented the regular bases at Illinois Valley on the Siskiyou forest, and Intercity on the Okanogan.

These enlarged facilities were important factors in holding down resource losses in the face of critical burning conditions. Altogether, 370,085 gallons of borate slurry and 28,060 gallons of chemically-treated water were dropped on 71 fires. Planes made a total of 1,883 flights, carrying 3,015 fire personnel, and 80,841 pounds of cargo and air freight. A total of 18 privately owned air-tankers and 112 reconnaissance and light cargo planes were under rental agreement. Region Six now has an air fleet of seven ships. One new plane was acquired during the year.

Smokejumpers made 210 jumps to 67 fires in the back country, and were successful in holding all their fires to small size.

Training

An intensive program of fire overhead training was carried on in 1959. This was designed to keep key fire control men current on methods and facilities. Training was given in group sessions and by detail to actual fires in this and other regions. A nucleus of highly trained fire personnel is being built on each forest to meet increasing fire control needs.

Weather Forecasting

Steps were taken to strengthen fire-weather forecasting. The Forest Service employed a professional meteorologist who assists Weather Bureau personnel in preparing and issuing forecasts for forested areas. He will train field personnel in the care and use of weather recording instruments, and use of data obtained.

Ground Equipment and Facilities

Trailbuilders and tractor plows continue to be our main ground fire-control weapon. They were used to build a total of 113 miles of fire line on 132 fires.

A one-man mechanical trailbuilder, called a "Rotokitten", was given a trial this season. It appears to have great potential for speeding up line construction in areas where larger equipment cannot work.

Timber Management

PLANS AND PROGRAMS

One of the highlights in the field of timber management in 1959 was activation of a salvage sales program carried out through smaller size sales. Special appropriations provided for additional personnel on all forests. The program will result in more small sales being prepared. It will help reduce losses in damaged timber through earlier preparation of the timber for sale. This program will continue in 1960.

It is our objective to harvest the full allowable cut from each working circle under the guiding principles of sustained yield and multiple use management. To keep the national forest land in continuous production, we expect to continue the current reforestation of cutover areas, and to improve stocking in areas where it is deficient.

PROGRESS

Timber Sales

Notable progress has been made in our salvage sales program. During the six months this program has been in operation more than 700 small sales were prepared and sold. The total volume exceeded 109 million board feet and had a value of \$1,863,800. In addition, more than 200 other small sales with a volume of nearly 127 million board feet were prepared and will be offered for sale in 1960.

The tabulation below shows the total volume cut and sold in the region during 1959 and a comparison with 1958.

Calendar Yr.	Sold			Cut		
	Volume *(MBF)	Value (\$)	#	Volume *(MBF)	Value (\$)	#
1959	3,978,955	99,009,644		4,285,488	85,870,550	
1958	4,371,075	66,221,323		3,098,855	59,568,134	

* Thousand of board feet.

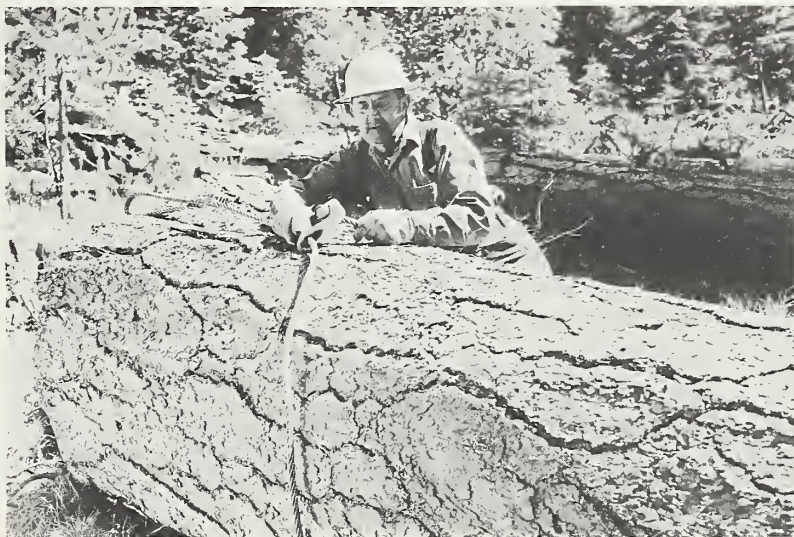
Includes deposits for sale area betterment.

The volume of cut during 1959 would indicate that the planned annual allowable cut of nearly 3.7 billion board feet had been reached. However, such is not entirely the case since not all of the working circles are harvesting their allowable cut. Some of the additional volume comes from working circles where overcutting was permitted to make up for undercuts during the previous budget period. Other volume comes from certain salvage operations not chargeable to the allowable cut. Salvage of timber from recreation areas, road and stream side strips would fit this category.

There are many items influencing the harvest possible from a specific working circle. Among these are rights-of-way, progress of road construction, man-power, and timber markets.

Reforestation and Stand Improvement

During fiscal year 1959 nearly 18 million trees were planted on 36,100 acres of national forest land. Most of these trees were produced at our Bend and Wind River nurseries. On 4,550 acres, 3,400 pounds of seed were sown, bringing the total reforestation work to 40,660 acres. The cumulative total area of national forest land successfully reforested is more than 293,000 acres.



Mature ponderosa pine log being harvested
from an east side forest

In addition to planting and seeding, the following work was done to improve the future timber stands:

Noncommercial thinnings	9,190 acres
Tree pruning	13,680 "
Plantation release	3,120 "



After the mature timber has been harvested, the areas are planted to maintain continuous production.

Road Rights-of-way

The outlook for acquisition of the permanent access necessary to properly manage our national forests is brighter. Our rights-of-way policies and procedures have been clarified and strengthened. During the year we were successful in acquiring 224 right-of-way easements, 2 road use agreements, and 3 cooperative road construction agreements.

Genetics and Seed Production

A bumper cone crop was produced in 1959. The region collected or purchased 20,000 pounds of Douglas-fir, 2,000 pounds noble fir, and 500 pounds of sugar pine seed, plus smaller amounts from various other species.

Seed collected commercially comes from trees with unknown form and growth rates. Eventually, we hope to control the seed supply and gather only from trees of superior characteristics.

During the year, 25 seed production areas were located in both Douglas-fir and ponderosa pine stands where seed can be collected from "better-than-average" trees. Work also began on 2 new seed orchards where grafting is being done to control the quality of seed provided.

The first field grafting of western white pine cuttings from blister rust-resistant parents was accomplished, and controlled pollination tests are under way to develop hybrids with superior characteristics.

Forest Insects

The Douglas-fir beetle epidemic in southwestern Oregon appears to have subsided, and large-scale salvage logging operations are under way. The Gifford Pinchot forest is continuing to salvage the timber killed and damaged by the balsam woolly aphid. On the Ochoco forest some control of western pine beetle was achieved by logging, but there are indications this epidemic may spread to other areas during 1960. The mountain pine beetle is also causing severe losses in some young ponderosa pine stands.

Forest Diseases

The use of an antibiotic fungicide is the newest development in efforts to control blister rust in white pine and sugar pine stands. Tests are being conducted on the Rogue River and Gifford Pinchot forests using "Acti-dione" to treat blister rust cankers. The fungicide is applied as a basal spray in a mixture of stove oil. Over 40,000 trees were treated, and initial observations indicate some success.

The conventional method of blister rust control through elimination of *Ribes* was maintained on 5,940 acres of selected sites on the Umpqua and Rogue River forests.

A pilot project for control of dwarfmistletoe in ponderosa pine was completed on the Deschutes forest when 630 acres of severely infected young trees were thinned and pruned to remove the infections. Procedures are being developed and costs determined. On the Rogue River forest, 715 acres were logged in an attempt to control the dwarfmistletoe in Douglas-fir.

Management Plans and Inventories

Inventory field work has been completed on all but two working circles in the region and the job of converting the new statistics into finished management plans is continuing.

One of the requirements of the Klamath Termination Act provides for review and approval of management plans prepared by potential purchasers for the sustained yield units within the reservation. We are participating in this review.

PROBLEMS

We continue to have problems in establishing plantations, both on cutover land and on brush fields created on old burns. Vegetation competing with trees for light and moisture must be eliminated mechanically or chemically, and planted trees and seeds must be protected from rodents, animals, diseases, etc. In some cases overstocked plantations are reducing the growth in our young stands. Efficient methods of thinning and pruning must be developed.

The major obstacle to harvesting the full allowable cut on many working circles is the lack of access, both from the standpoint of insufficient roads and from the lack of access across private land.



Young vigorous trees are pruned to produce clear high quality saw logs in the future.

Insects and diseases in forest stands account for substantial losses both in volume and quality. The use of fungicides may represent a major break-through in forest disease control, but possible side effects must be observed and studied. Work has been started on the use of parasites in control of the balsam woolly aphid, but here again results are incomplete. Control measures for mountain pine beetle in young ponderosa pine stands have been ineffective.

Engineering

PLANS AND PROGRAMS

To provide for managing, protecting and using the multiple resources of the national forests many engineering skills are required. Roads, trails and bridges must be surveyed, designed and built to provide transportation routes into the forests for recreation, for managing timber, and the many forest resources. Recreation areas, ranger stations, residences and many other improvements must be designed and constructed. Maps must be provided to assist in translating management plans into action on the ground. These are but a few of the many engineering jobs which must be planned for the future.

PROGRESS

Roads and Trails

The greatly increased use of all the resources of the national forests requires that we take advantage of every available means to reduce the time required for detailed work. To meet that need we are now using electronic machines for computing our road design work and for tabulating statistical data. A materials testing laboratory was established for testing road building and other structural materials.



Good transportation routes are essential to proper management of the multiple resources of the national forests.

The following table will show the accomplishments on the transportation system for the fiscal year 1959.

Work Done With Appropriated Funds:

	<u>Quantity</u>	<u>Obligation</u>
New bridges	30	\$ 929,491
Temporary bridges replaced with permanent	29	390,719
Temporary bridges replaced with culverts	34	150,851
Timber access roads, new	60.5 miles	1,646,933
Timber access roads, reconstruction	23.7 "	82,503
All purpose roads, new	23.3 "	271,013
All purpose roads, reconstruction	41.5 "	254,439
Survey & plans, timber roads	1,474.8 "	2,152,284
Survey & plans, all purpose roads	60.3 "	44,647
Construction Engineering, timber roads	1,525.8 "	589,134
Construction Engineering, all purpose roads	33.6 "	17,746
Expense supplementing purchaser construction		338,728
Trail construction & reconstruction	83.6 "	187,084
Maintenance & restoration of roads	12,260 "	1,241,999
Maintenance & restoration of trails	11,870 "	433,172

By Timber Sale Contract:

Road construction & reconstruction	1,484.1 "	26,644,366
Road maintenance	9,355.7 "	2,824,213

Forest Highways

During fiscal year 1959 the Bureau of Public Roads awarded contracts amounting to \$5,588,273 covering 82.1 miles of forest highway construction and reconstruction. These highways are a major part of the State Highway systems which lie in or adjacent to national forests. The State Highway Departments, Bureau of Public Roads, and Forest Service participate jointly in preparation of forest highway programs.

Water Developments

Several noteworthy projects were engineered and built in 1959. A dam at the outlet of Lake of the Woods on the Rogue River forest now raises the lake to its former level and insures a constant shore line.

An irrigation system for the Wind River Nursery and a new domestic water system for Timberline Lodge were also completed this year.

Plans are going ahead to complete the dam started years ago at Trillium Lake near Government Camp on the Mt. Hood forest. This is a cooperative project with the Oregon State Game Commission to provide increased fishing waters.

Architecture

Standard regional plans have been developed for nearly all types of structures, including residences, offices, warehouses, and lookout towers. A special tower incorporating an observation platform for visitors was designed and constructed at Marys Peak, near Corvallis.

Cartography

The planimetric mapping program embracing about 77,000 square miles is nearing completion. Using the planimetric base, forest series maps were completed for the Umpqua, Willamette and Deschutes forests. The Siuslaw map is now being similarly printed.

Recreation folder maps were prepared for the Deschutes, Mt. Hood, Rogue River and Snoqualmie forests. The program for 1960 includes the Okanogan, Mt. Baker and Olympic forests.

Forest Transportation System base maps were revised for the 113 ranger districts. Processing is well under way.

Topographic sale area mapping was completed on seven projects averaging 5 to 22 square miles each. These were on the Willamette, Malheur, Olympic, and Mt. Baker forests. Other aerial photography covering more than 11,000 square miles was done on the Gifford Pinchot, Mt. Hood, Willamette and Deschutes.

PROBLEMS

Rugged terrain, a variety of climatic conditions, and many operations in isolated locations in the region present a variety of challenging problems. The best possible road location and construction practices are essential to protect the stream sides and prevent movement of soil masses.

Our trail system is not adequate to meet the increasing demand for recreation travel and will require more emphasis in the future.

State & Private Forestry

Of the commercial forest lands in the Region, almost 50% are in state, private and other nonfederal ownership. These lands, comprising nearly 23 million acres, are of vital importance to the Region and the Nation. They are highly productive, close to markets and potentially are capable of producing more than half of the forest products of the Region.

PLANS AND PROGRAMS

It is the Forest Service objective to promote adequate protection from fire, sound forest management and wise use of these forest lands so that they will contribute their full share to the welfare and needs of the people. Our plans for accomplishing this are through the Federal-State cooperative programs authorized by Congress.

At present we share with the States in ten separate cooperative programs. They are commonly referred to as: Cooperative Fire Control, Cooperative Tree Planting, Cooperative Forest Management, General Forestry Assistance, Conservation Reserve, Agricultural Conservation, Title IV Agricultural Act 1956, Rural Development, Small Watershed and Pest Control Programs.

Total Federal funds made available to the State Forestry Departments in Oregon and Washington for assistance in these cooperative programs for fiscal year 1959 were \$1,181,474.

PROGRESS

Cooperative Fire Control

On State protected areas, the records show a total of 1,116 man-caused fires in 1959 compared to 1,902 the previous year—a reduction of 40%. Total area burned on State protected lands was 27,430 acres, slightly more than one-tenth of one per cent of the total area protected. Both states are strengthening their Rural Fire Defense Plans, and are training selected protection personnel in reading radiological instruments for measuring fallout.

Cooperative Forest Management-Farm Forestry

At present there are 17 farm foresters in the Region hired by the States of Oregon and Washington to provide service to woodland owners. They assisted 3,923 of a total of 83,700 woodland owners during the year. A total of 104,100 acres of woodland was involved, bringing a gross income of \$656,100 to the owners for the products harvested from these woodlands. Total Federal aid for this program in F. Y. 1959 was \$36,700—about 30% of the total cost.



Farm Forester explains thinning practices to group of students during School's Conservation Day Tour.

Rural Development Program

The program was set up to determine methods of raising the standard of living of low income groups. Lincoln County, Oregon was selected as the pilot county for 1959. We have contributed the following through cooperation of the Siuslaw forest in hiring a man to accelerate a small timber sales program:

1. A total of 71 sales of less than 500 thousand board feet each were made for a total of 2,930 thousand board feet. They were purchased by 29 different operators, bringing a stumpage return to the Government of \$66,360. Government expenditures for small sales in that area were \$7,170. These sales furnished full- and part-time employment for many loggers, truckers, millmen and farmers.
2. In a six-month period in 1959, 112 greenery sales, 60 brushland leases and sales of 6,000 pounds of Cascara bark were made.

Agricultural Conservation Program (ACP)

Assistance has been provided the State and County A.S.C. Committees in the Agricultural Conservation Program in Oregon and Washington. Work included planting unstocked areas and pruning and thinning pre-merchantable forest stands.



Christmas trees provide an important source of income for many small wood lot owners.

Agricultural Act of 1956 Title IV

Under this Act, the Forest Service has authority to assist in restocking non-federal land up to the amount spent by the States. The Oregon State College School of Forestry received \$3,682 of Federal funds to continue a project started in 1958.

Cooperative Tree Planting

Nurseries operated by the two State Forestry Departments shipped over 29 million trees last year. Trees were sold at cost, and along with 14 million trees produced in private nurseries, were used to plant more than 64,000 acres of non-federal land. Over 26,000 acres were reforested by direct seeding. Federal aid for this program in F.Y. 1959 was \$14,900.

Conservation Reserve

Nearly 3,500 acres of cropland were planted to trees during 1959 as part of the Soil Bank Program. The trees planted in this program were produced in State nurseries but financed by federal funds. An estimated 3½ million trees were planted on Conservation Reserve Lands.

General Forestry Assistance

Northwest folks continue to demand better Christmas trees. Growers have been assisted through field demonstrations, workshops, television programs and study plots in techniques of tree culture.

PROBLEMS

One of the major problems in the control of fires in Oregon and Washington is the existence of snags and large contiguous areas of unburned logging slash.

The demand of woodland owners for the services of the farm foresters is twice that which the States have been able to meet.

There is a need for markets for small material secured from thinning operations.

Improved manufacturing techniques and broader markets are needed for western hardwoods. Better and cheaper methods are needed to eliminate unmerchantable types of hardwoods that have taken over lands capable of producing more valuable coniferous trees.

Equipment development has not kept pace with the present change-over from an old growth to second growth economy. Loggers and processors are looking for new equipment to handle small material, reduce costs and leave the forest and soil in good condition.

Operation

PLANS AND PROGRAMS

The 5-year regional construction program continues. It is providing needed housing, fire control improvements, service buildings and adequate communication networks for field personnel. A similar program for the establishment of adequate communication networks on all National Forests is being continued. The new servicewide Directive System has been in use for a year and a new filing scheme coded to the Directive System became effective on July 1, 1959.

A uniform work planning system tested on six forests in the Region during 1958 was adopted on all forests during the past year. This will result in a standardized method of preparing forest work plans.

PROGRESS

Improvement Construction

During calendar year 1959, construction was completed on 28 residences, 11 barracks, 4 offices, 3 warehouses, 6 equipment storage buildings, 5 oil houses, 3 mess halls, 1 crewhouse, 1 barn and 11 lookouts. A cold storage building was constructed at one of the tree nurseries for tree storage. Eighteen station water systems were constructed or received betterment. Construction has been started or contracts awarded for the following additional improvements: 24 residences, 16 barracks, 4 offices, 3 warehouses, 2 oil houses, 1 crewhouse, 1 equipment storage building, 1 messhall, 2 lookouts and 7 water systems. Additional space was added to four offices and 1 residence.

Communications

Because of excessive interference in the 30 megacycle radio band, it has been necessary to convert to 160 megacycles. The conversion started two years ago is being continued. During the past year radio equipment had been purchased for three forests for the conversion. Thirteen forests remain to be converted. Two new radio relays were constructed and installed, increasing coverage into the back country.



One of the new residences constructed under the expanded housing program.

Workload Analysis and Budgeting

During the past year revision of the computed workload for the Region in both resource management and facilitating services was completed. Workloads have doubled in the 5-year period since 1955. Workload evaluation is a very useful tool in the systematic programming and organizing of Forest Service work in the ever-growing field of multiple resource management.

Administrative Services

During the past year bids were solicited and contracts awarded for 119 projects totaling \$2,438,350.

Heavy demands upon the regional fire cache proved the efficiency of machine handling procedures installed last year.

New and enlarged office quarters were secured for the Gifford Pinchot and Siuslaw National Forests.

Regional office space was reorganized with the move of the Division of Engineering into quarters in the neighboring Omark Building. Reassignment of available regional office space and long-range planning toward consolidation of all Forest Service offices in one location is scheduled for special attention this year.

PROBLEMS

In spite of significant progress in the construction of new housing and related improvements, we are not keeping up with current needs. Program expansion and increased personnel at remote locations are developing housing needs faster than we have been able to supply them.

Special attention during 1960 to the need for more office space will be necessary for at least six forest headquarters.

Personnel Management

PLANS AND PROGRAMS

We are continuing emphasis on a well-rounded training program to equip young foresters and old with the knowledge and abilities needed to manage the multiple resources of the national forests. Training and Development Plans have been or will be prepared for all career employees in the Region. Orientation of new employees and planned technical and on-the-job training are continuing.

PROGRESS

Recruitment was good in 1959. We appointed 124 foresters and 54 engineers; in fact our engineering staff nearly doubled. Also 417 forestry and 32 engineering students were given summer employment. In 1960 we expect to fill out engineer needs for the first time in recent years.

We participated with the Civil Service Commission in developing new classification and qualification standards for forestry and fire control aid positions. The standards will help achieve better balance between professional and sub-professional positions. New wage rates were established for regional Wage Board employees as the result of wage surveys conducted in Oregon and Washington.

New programs such as Fire Replanning, National Forest Recreation Survey and Multiple Use Planning required intensive group training.

Safety

The Region received an award from the National Safety Council for having worked at least a million hours (1,404,976) without a lost time accident. This is a new record for Region 6.

Administration at all levels continued to emphasize safety and accident prevention. This year we had 40 lost time accidents, 112 motor vehicle accidents and 7 other property damage accidents. We had no aviation accidents and no fatalities during the year. Increased attention is being given to motor vehicle operation, and about 130 employees were trained as road test examiners.

PROBLEMS

Our training problems continue to increase as our organization grows. As the workload increases, an administrator must have well-qualified, well-trained personnel to whom he can delegate authority in order to get the job done.

Information & Education

Requests from individuals and groups for information and education items have continued to mount. The most frequently requested items are maps, directories of national forest camps, and educational materials. We have had many requests for illustrated talks, assistance to writers, news releases, and exhibits. The Forest Service provided two exhibits at the Oregon Centennial Exposition. One portrayed the multiple resources of the national forests of Region 6 and was entitled "Multiple Use is Balanced Use", the other, "Smokey Bear and Friends", was presented jointly with the Oregon State Board of Forestry and Keep Oregon Green Association.

Conservation education occupies an important position in our total job. Forest Service personnel took part in six workshops in which over 200 teachers from both Oregon and Washington participated. We assisted the Washington State Federation of Women's Clubs and the Wenatchee forest in establishing a youth forest near Ellensburg.

Our Forest Service film library has 260 prints of 54 movies. During the year these motion pictures were shown 3,447 times and viewed by a total of 175,400 people of all ages. We are looking forward to release early in 1960 of a new Forest Service movie, much of which was filmed in Oregon and Washington.

Research

Forest Service research is the responsibility of the Pacific Northwest Forest and Range Experiment Station. The Station issues a separate report. It is now being compiled. When issued it may be secured by writing to:

Director, Pacific Northwest Forest and Range
Experiment Station
P. O. Box 4059
Portland 8, Oregon



Smokey Bear and Friends at the Oregon Centennial Exposition.
"Remember—Only You Can Prevent Forest Fires!"

RECEIPTS AND EXPENDITURES — FISCAL YEAR 1959

Region 6

NATIONAL FOREST PROGRAMS

	EXPENDITURES		
	Receipts	Operating	Investments
National Forest Protection and Management & L. U. Projects		\$10,016,281	\$2,559,800
Fighting Forest Fires		2,629,385	19,296
Insect & Disease Control		225,909	21,842
Road & Trail System - Construction & Maintenance		1,630,223	6,422,921
Watershed Protection		24,244	
Cooperative Deposits (Including timber deposits for stand improvement)			
Operating	38,346	36,157	
Investment	2,737,509		2,523,710
National Forest & L. U. Area Receipts			
Forest Reserve Fund	65,647,608		
Ore. & Cal. Lands (National Forest)	3,088,801		
Ore. & Cal. Lands (B. L. M.)	162,427		
Warm Springs Indian Lands	642,456		
Other Miscellaneous Receipts	125,506		
Totals	\$72,442,653	*\$14,562,199	\$11,547,569
Less Cooperative Deposits Investment Receipts	2,737,509		
Total Operating Receipts and Expenditures	\$69,705,144		\$26,109,768

*

a. Operating Expenditures	\$14,562,199
b. Estimated annual deprec. on roads, trails & other improvements in place on June 30, 1958	7,569,005
Total	\$22,131,204

Amt. by which Receipts exceed operating expend. plus estimated depreciation 47,573,940

Note: Expenditures are on an obligation basis.

Payments made to States pursuant to 16 USC 500.
(25% of resource receipts).

Oregon	-	\$11,200,200.37
Washington	-	5,126,962.02
California	-	84,739.54
Total		\$16,411,901.93



LEGEND

- STATE LINES
- COUNTY BOUNDARIES
- NATIONAL FORESTS
- ▨ NATIONAL FORESTS IN ADJACENT REGION

30 24 18 12 6 0 30 60 90
Scale in Miles

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE

NATIONAL FORESTS

OF THE

PACIFIC NORTHWEST REGION

1959

